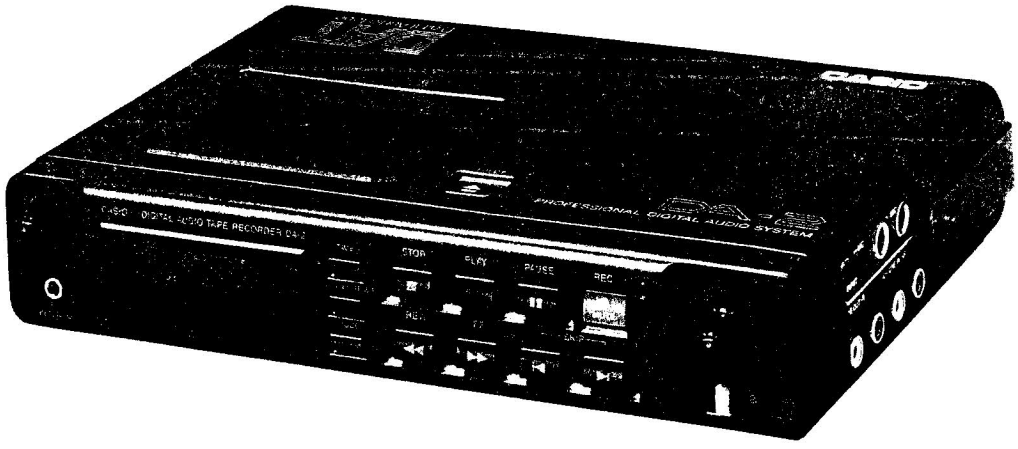
DA-2

PROFESSIONAL DIGITAL AUDIO SYSTEM

INSTRUCTION MANUAL 1
MANUAL DE INSTRUCCIONES 35



DAT
Digital Audio Tape

CASIO

Congratulations on your selection of the Casio DA-2 Professional Digital Audio System. To obtain optimum performance and ensure long-term reliability from your new DA-2 unit, be sure to read this manual carefully. And when you're finished reading these instructions, be sure to store this manual where you can refer to it often.

Contents

Before using this unit **2**
- Power source 2
- Handling precautions 2
- Notes on condensation 2
- Care of your DA-2 3
- DA-2 standard accessories 3

General Guide 3
- Controls **4**

Power Source 5
- Using household current **6**
- Using the Ni-Cd rechargeable battery pack (Accessory rechageable battery pack) 6
- Using a Car battery (DC-12V) 7
- Auto power off function 9

Connections 9
- Connecting the DA-2 and a stereo amplifier **10**
- To use headphones 10
- To record with a microphone 10

Using DAT Cassette Tapes 10
- Loading tapes **11**
- To remove cassette tapes 11

Recording 12
- To record with the DA-2 (Basic operations) **13**
- To stop recording 13
- To create a recorded blank (REC/MUTE) 15

Playback 15
- To play a selection (basic operation) **18**
- To stop playback 18
- Fast Forward and Rewind 18
- Cue/Review Playback 19

Playback Variations 19
- Skip play **20**
- Auto rewind 20

Sub-codes 20
- How the DA-2 records data **21**
- About DA-2 Sub-codes 21
- Registering Start IDs 22
- To erase Start IDs 22
- Program numbers 23
- Renumbering program numbers 24

Changing the Time Counter 25
- ABS (Absolute time) **26**
- PRG (Program time) 26
- REM (Remaining time) 27
- Counter 27
- TOC (Table of contents) 28

Changing the Operating Mode 28
- Changing modes (during recording or REC pause) **29**

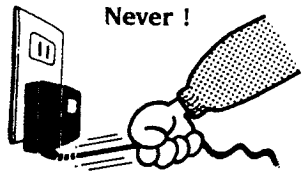
Troubleshooting 30
Specifications **31**
Optional Accessories **32**
33

Before using this unit

Be sure to read through the following precautions.

Power source

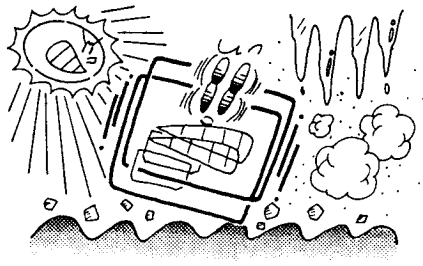
- This unit is equipped with an AC power adaptor. Make sure that the operating voltage of your unit is identical with the voltage of your local power supply.
- To disconnect the AC adaptor cord, pull it out by grasping the plug. Also, never place heavy objects on the AC adaptor cord.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time.



Handling precautions

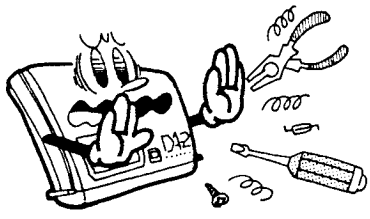
Never place this unit in the following locations.

- In direct sunlight, near heating units or other areas subject to high temperatures.
- In locations subject to extremely low temperatures or excessive dust.
- In locations subject to high levels of humidity.
- On top of speakers, televisions or other devices which utilize magnetic force. Also, be sure to avoid locations subject to high vibration.

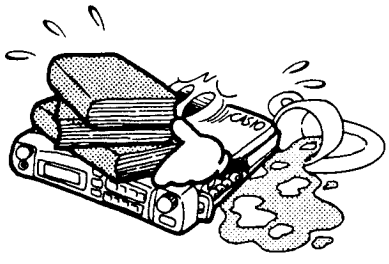


Avoid strong shocks, and never attempt your own maintenance.

- Do not drop this unit or subject it to severe shocks.
- Never disassemble or attempt to repair or modify the DA-2 in any way. Also, never allow foreign matter such as hair pins, liquids, etc. to enter the unit.
- Never insert objects into jacks, the cassette holder, or the power terminal, etc.



Never place objects on top of this unit.



Notes o
condens

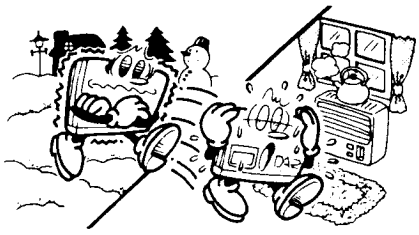
Care of
DA-2

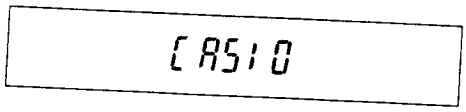
DA-2 star
accessor

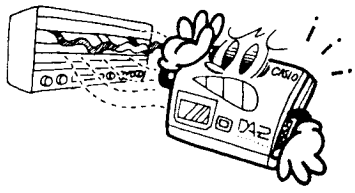
This dev
receptio
so will a
when ar

Notes on condensation

If the DA-2 is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the drum and head components inside the unit. Should this occur, the unit will not operate, and the following message will flash on the built-in display:



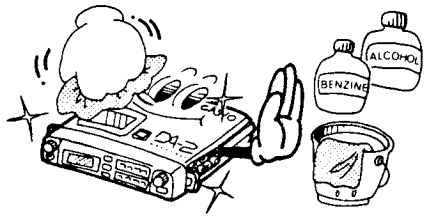




If this message appears, wait 1 to 2 hours before attempting to use the unit again.

Care of your DA-2

- Clean the exterior of the unit and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvents such as alcohol or benzine.
- Do not allow dust or dirt to come in contact with the unit's revolving heads. If the heads become dirty, clean with a commercially available DAT head cleaning tape.



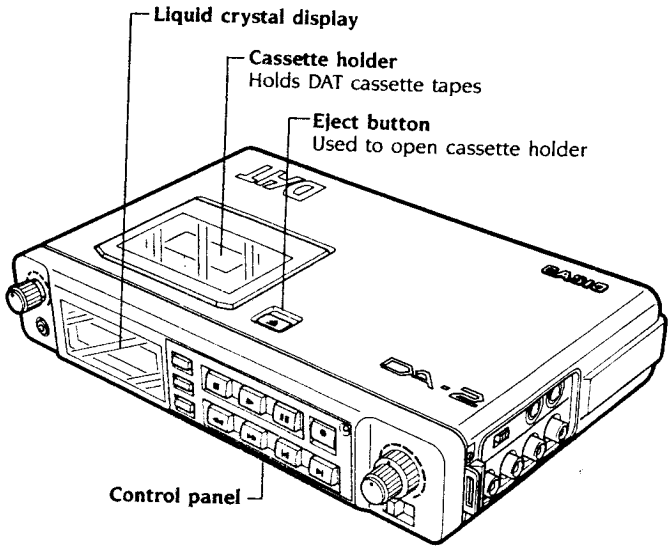
DA-2 standard accessories

This unit comes complete with:

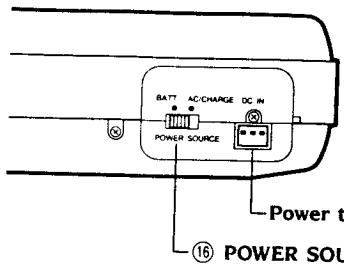
- AC adaptor
- 2 connecting cords
- Ni-Cd rechargeable battery pack

This device utilizes high frequency signals which may cause interference to radio and television reception. If this should occur, move this unit away from the television or radio receiver (doing so will also prevent distortion when recording). Also, the same type of interference may occur when an indoor antenna is in use.

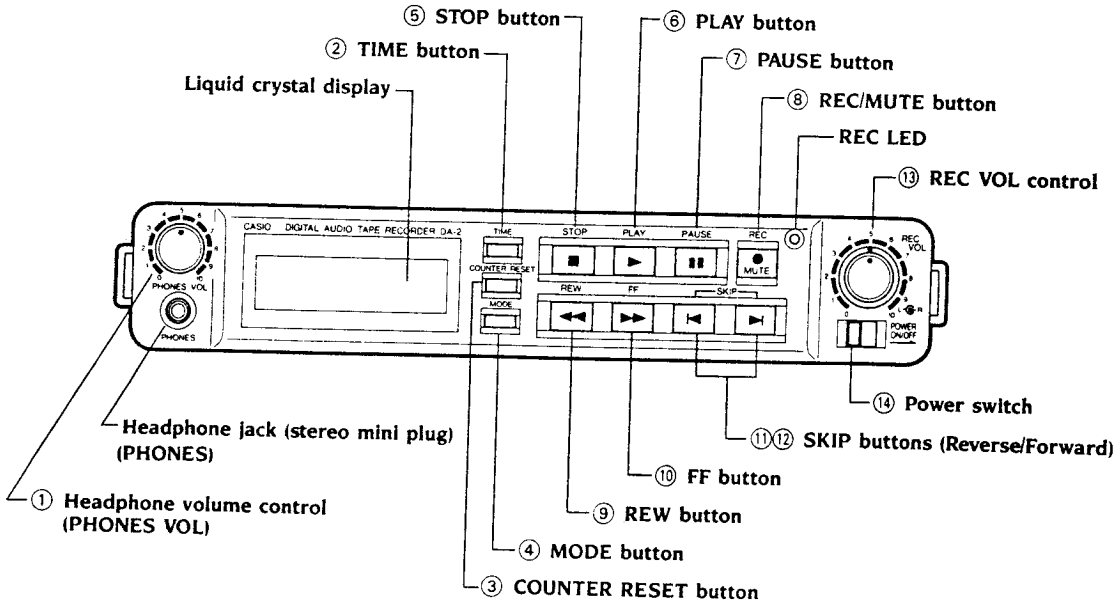
General Guide



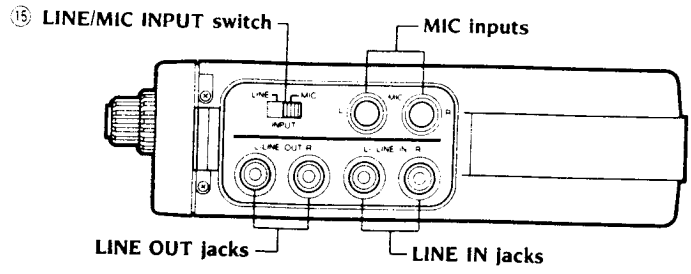
[Back view]



[Front view]



[Right side view]



Controls

① PHONES VOL control
Used to control sound volume when using headphones.

② TIME button
Press to select the DA-2's various time display functions, selecting ABS time, PRG time, REM time, the tape counter and the 3-second TOC display (see page 26).

③ COUNTER RESET button
Press during DA-2 operation to reset the tape counter to "0".

④ MODE button
Used to select Start-ID editing modes, for insertion, deletion and renumbering during playback (see page 29).

⑤ STOP button
Used to stop the tape drive and to cancel a variety of DA-2 operations.

⑥ PLAY button
Press to begin playback or recording.

⑦ PAUSE button
Press to temporarily stop/start, operation during playback or recording. Press once more to re-start operation.

⑧ REC/MUTE button
Press to enter REC standby mode. To enter blank (recorded blank) spaces in audio program press during recording. (MUTE function).

⑨ REW button
Press to rewind the tape. This button can also be used when tape is playing to "review" parts you've already listened to.

⑩ FF button
Press to fast forward the tape. This button can also be used when tape is playing to "cue" ahead in the audio program.

⑪ SKIP Reverse button
Used to skip directly to the beginning of the present program or previous programs. Press once to skip back to the beginning of the present selection, twice to skip to the beginning of the previous selection, etc.

⑫ SKIP Forward button
Used to skip directly to the beginning of the succeeding program. Press once to skip to the beginning of the next selection, twice to skip two selections, etc.

⑬ REC VOL (recording volume control)
"Stacked" control knob can be used to control recording volumes of right and left stereo channels independently.

⑭ Power switch
Press to the right to turn DA-2 power ON or OFF.

⑮ LINE/MIC INPUT switch
Used to select LINE for input from an external audio device, or MIC for recording using a microphone.

⑯ POWER SOURCE switch
Used to select the DA-2 power source. Set to BATT when using the rechargeable battery pack, or AC/CHARGE when using AC current or when charging the battery pack.

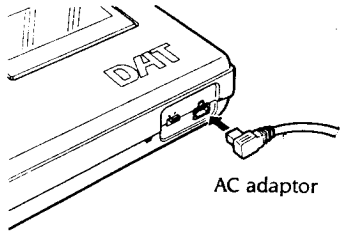
Power Source

This unit can be powered by household current, a rechargeable battery pack or a car battery (optional adaptor).

Using household current

An AC adaptor is required when using household current.

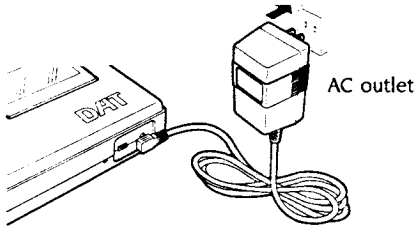
1 With the unit's power OFF, insert the AC adaptor into the power terminal on the back of the unit, and set the POWER SOURCE switch to the AC/CHARGE position.



AC adaptor

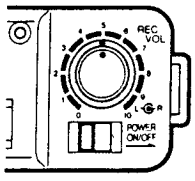
• Always insert as illustrated.

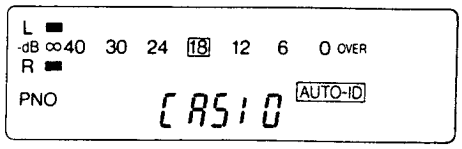
2 Insert the AC adaptor unit into an AC outlet.



AC outlet

3 Switch power ON.
The liquid crystal display will appear as shown below.





NOTE

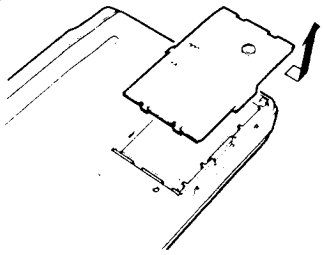
Be sure to use only the genuine Casio AC adaptor which was supplied with this unit. Also, remember to disconnect the AC adaptor by grasping the adaptor unit itself — never pull on the cord.

Using the Ni-Cd rechargeable battery pack (Accessory rechargeable battery pack)

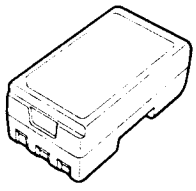
The supplied rechageable battery pack is not charged at factory. The battery should be charged before use.

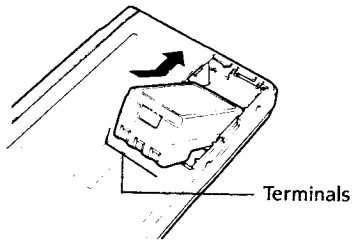
<Charging the rechageable battery pack>

1 Slide open the battery cover in the direction indicated by the arrow, and lift it up straight.

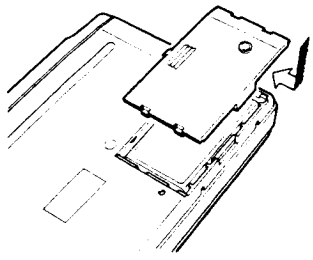


2 Insert the rechageable battery pack with terminal side down as illustrated.

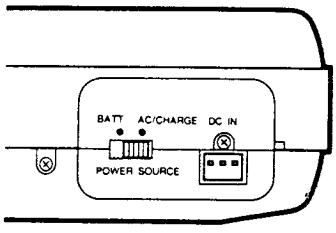


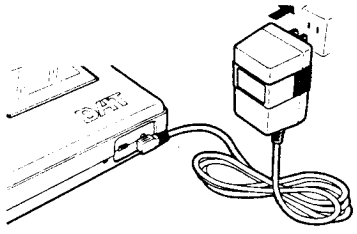


3 Replace the battery cover.



4 Set the POWER SOURCE switch to the "AC/CHARGE" position and connect the AC adaptor plug to the power terminal. Plug the AC adaptor into an AC outlet.



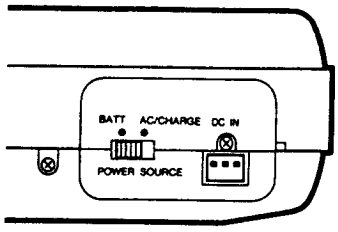


Charging begins at this time. A full charge is achieved in about 8 hours.

5 Ensure that the power of the DA-2 is switched off, and disconnect the AC adaptor.

<Using the rechargeable battery pack>

1 Set POWER SOURCE switch to the "BATT" position.



2 Switch power ON.

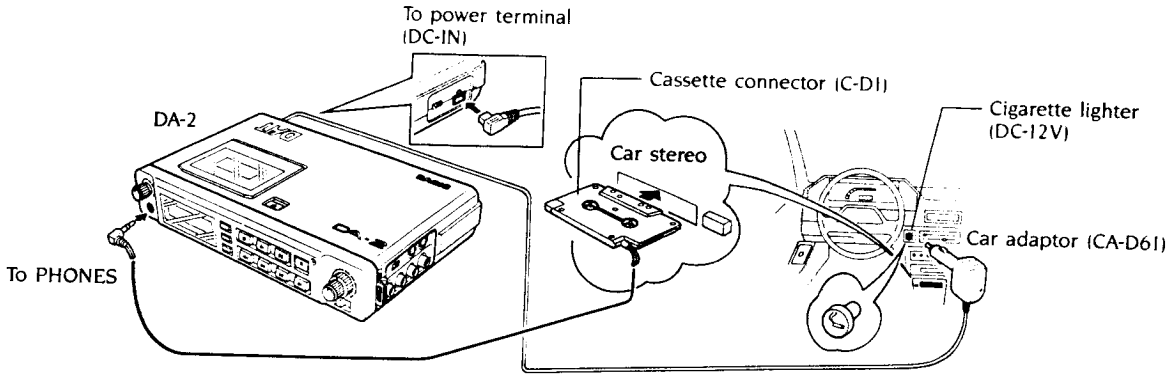
When the battery is low, the battery warning indicator will flash on the display. If this indicator appears, the battery should be charged as soon as possible.

- Be sure to turn the DA-2 power switch OFF before switching the POWER SOURCE switch.
- The DA-2 will run for approximately 2 hours (continuously) on an 8-hour battery charge. In cold weather, this time may be shortened somewhat.
- Avoid charging the unit for more than 24 hours at a time.
- Be sure to recharge the Ni-Cd battery pack after using it.
- Recharge the unit at least once every 6 months, even if you don't plan on using it.
- For recharging, choose an environment with an ambient temperature of between 0°C (32°F) and 40°C (104°).

Using a Car battery (DC-12V)

To utilize the DA-2 in an automobile, choose the Car Option Set (OC-D20), which features the car adaptor (CA-D61) and car cassette connector (C-D1).

Car adaptor



For negative ground cars.

- ***Car adaptor plug size and specifications differ according to the country where vehicle was produced.***
- Note that the C-D1 cannot be used with some types of car stereo systems. For further details, contact your authorized Casio dealer.

Auto power off function

The DA-2 features an "auto power off" function which automatically turns OFF power 6 minutes after the last operation of the unit. To return to normal operation, simply switch the power ON again. If you want to cancel the Auto Power OFF function for continuous power, hold down the **STOP** button when you switch the power ON.

Connections

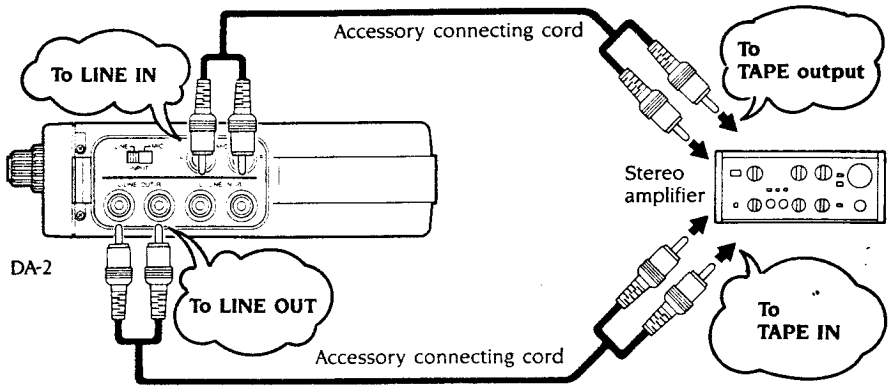
Before connecting the DA-2 and any other audio unit, be sure to turn both units OFF.

Connecting the DA-2 and a stereo amplifier

Connect the unit to the amplifier with the accessory connecting cords. Take care to connect as illustrated, with DA-2 OUT terminals connected to amp IN terminals, and vice versa.

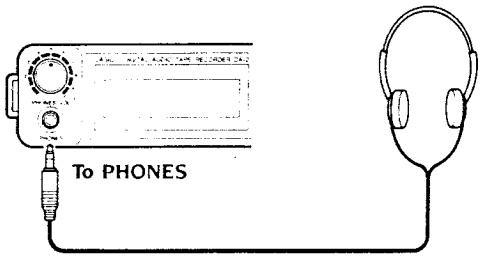
- Red plugs should be connected to R (right) channels
- White plugs should be connected to L (left) channels.

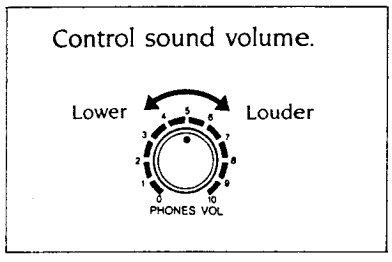
Set LINE/MIC INPUT switch to the LINE.



To use headphones

The DA-2 accepts any headphones with a normal "mini-plug" type stereo jack. (To connect a standard phone plug, use a stereo mini-plug adaptor.)

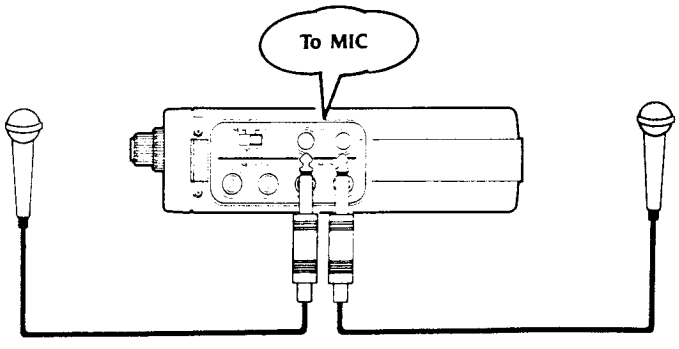




To record with a microphone

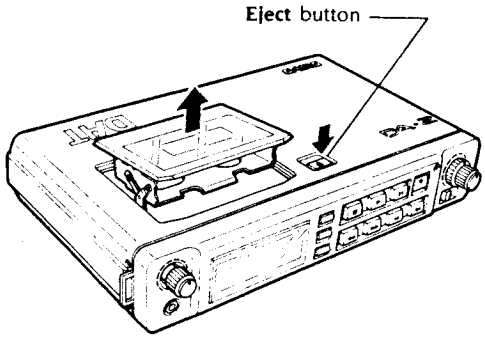
You can record with microphones featuring standard phone plugs.

Set LINE/MIC INPUT switch to the MIC.

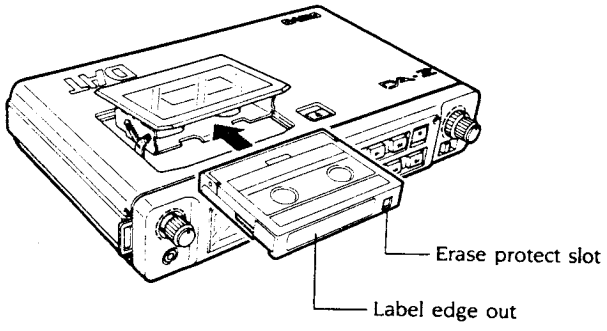


Loading tapes

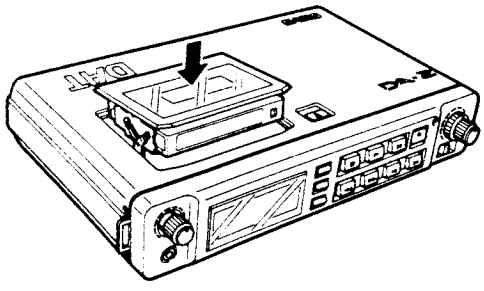
1 With DA-2 power ON, press the **EJECT** button on the top of the unit. The cassette holder will open.



2 Insert the tape face up into the holder, as illustrated.



3 Close the cassette holder by gently pushing it down.

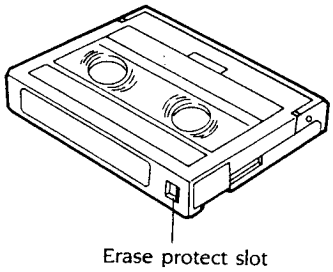


To remove cassette tapes

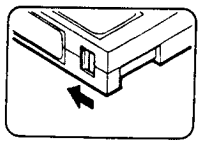
Press the **EJECT** button on the top of the unit. The cassette holder will open. Remove the tape from the holder and close the holder once again.

Tape handling precautions

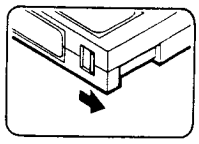
- Be sure to use only DAT cassette tapes in this unit.
- Unlike conventional analog cassette tapes, DAT tapes record/playback on only ONE side of the tape.
- To prevent the contents of any tape from accidentally being erased, simply open the erase protect slot as illustrated below.



Erase protect slot



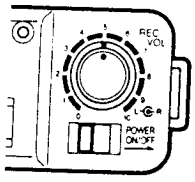
OPEN: When the tab is to the left, contents of the tape cannot be recorded over.



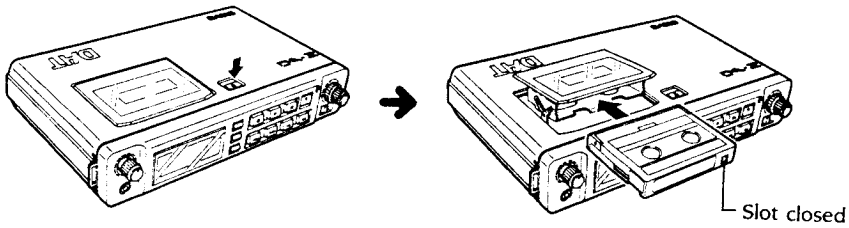
CLOSED: When the tab is to the right, contents of the tape can be recorded over.

To record with the DA-2 (Basic operations)

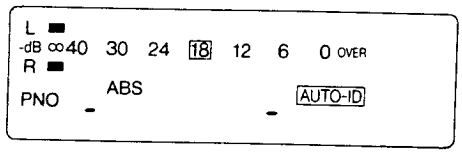
1 Switch power ON.



2 Insert a DAT cassette tape into the cassette holder.

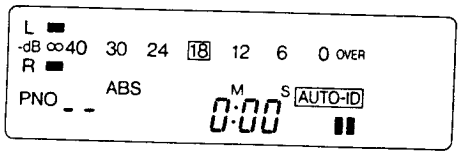


3 When you want to record using **ABS** (absolute time) (see page 26), rewind the tape all the way to the beginning (until rewind stops).



In cases where the tape has been partially recorded, refer to page 17.

4 Press the **REC/MUTE** button.
The LED will flash and a 5 second "recorded blank" ("Lead in Area") will automatically be inserted at the beginning of the tape. After this, operation enters a recording standby state (**REC pause**).



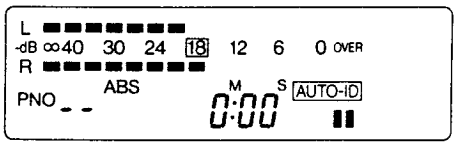
REC LED flashes slowly

- REC pause is cancelled automatically after 5 minutes if **PLAY** or **PAUSE** button is not pressed.
- ABS time is registered only with the completion of steps 3 and 4.

In the **REC pause** state, the AUTO-ID (see page 22) function can be turned ON or OFF by pressing the **MODE** button. When the AUTO-ID mark is displayed, Start ID's (see page 22) are inserted automatically after three seconds or more of silence. When the AUTO-ID mark is not displayed, Start ID's are inserted only when the **PLAY** button is used to initialize recording.

5

In the REC pause state, you can adjust the recording level with the recording volume control while viewing the level meter on the liquid crystal display.



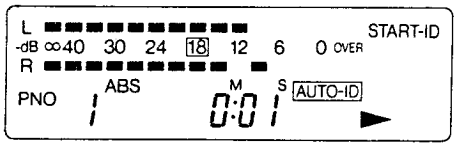
REC LED flashes slowly

- Using the "stacked" recording volume control, you can adjust the volume of the left and right channels independently. When adjusting either channel, hold the control knob with one hand while the adjusting the volume of the other.
- Make sure that the level does not reach the OVER mark on the meter.
- For details, see "To adjust the recording level" on page 15.

6

Press the **PLAY** button to begin recording.

Indicates recording in process (PLAY display)

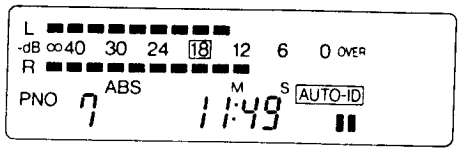


REC LED lights

- Recording can also be initiated by pressing the **PAUSE** button.
- Even if you press the **PLAY** button immediately after pressing **REC/MUTE**, actual recording does not begin until after a 5-second recorded blank (Lead in Area) is inserted.

To stop recording

Press the **PAUSE** button to reenter the REC pause state (press the **STOP** button to stop recording).



REC LED flashes slowly

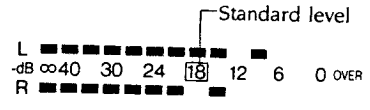
- To begin recording again, press the **PLAY** button or **PAUSE** button.
- The **PAUSE** button does not operate while a selection's Start ID is being registered (first 12 seconds of program time.).

Leave a small recorded blank after you finish recording, waiting a few moments before pressing the **STOP** button.

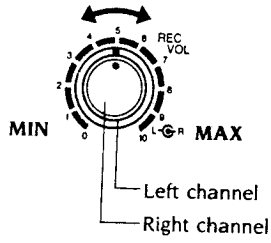
To adjust the recording level

While listening to the sound you want to record in the REC pause state, you can adjust the recording volume level of each channel with the **REC VOL** control. The sound will become distorted during playback if the recording level exceeds 0dB. The level meter holds the peak level for 2 seconds, so you can adjust the level so that the selection will be recorded between −18dB and 0dB. Try to keep the peak level as close to 0dB as possible, without exceeding it.

If you record outdoors, it may be difficult to determine the peak value. In this case, lower the recording level slightly (so that the peak is at about −12dB).



Adjust so that the level does not enter the "OVER" zone on the meter.

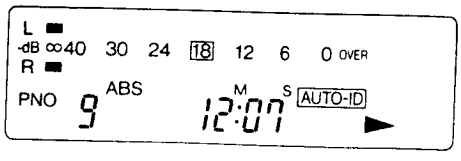


To create a recorded blank (REC/MUTE)

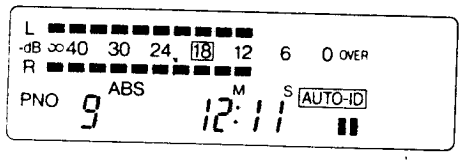
By using the **REC/MUTE** button, you can create a recorded blank space in any portion of the tape.

<To create a 4-second recorded blank (REC mute)>

When you want to create a recorded blank while recording or while in the REC pause state, simply press the **REC/MUTE** button. The LED will flash quickly, and a 4 second space will be created automatically, and then operations return to the REC pause state.



REC LED flashes fast



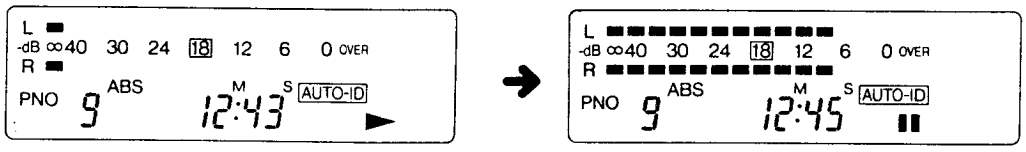
REC LED flashes slowly

The **REC/MUTE** button does not operate while a selection's Start ID is being registered (first 12 seconds of program time).

<To create a recorded blank of less than 4 seconds>

There are two ways (**A** and **B**) to create a blank space less than 4 seconds.

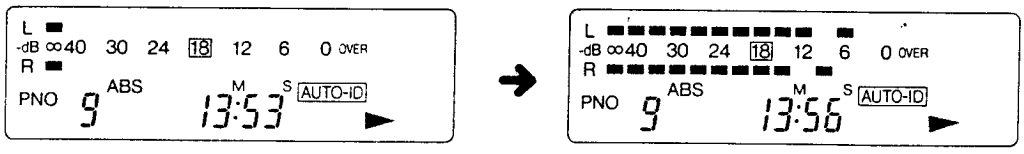
A After pressing the **REC/MUTE** button, press the **PAUSE** button during **REC** mute state. A recorded blank of less than 4 seconds will be created, and operations will return to the REC pause state.



REC LED flashes fast

REC LED flashes slowly

B After pressing the **REC/MUTE** button, press the **PLAY** button during **REC** mute state. A recorded blank of less than 4 seconds will be created, and then recording automatically begins again.

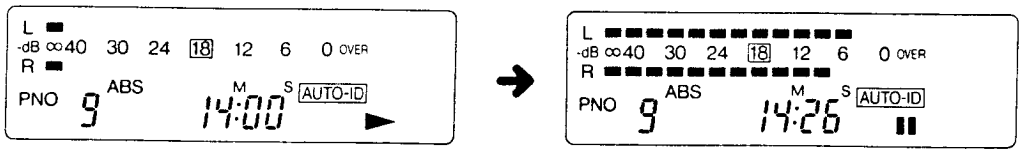


REC LED flashes fast

REC LED lights

<To create a recorded blank of more than 4 seconds>

During recording, hold down the **REC/MUTE** button. A recorded blank will be created for as long as you hold down the button. When you release the button, operation returns to the REC pause state.



REC LED flashes fast

REC LED flashes slowly

Recording Hints

- **Recording with a new (non-recorded) tape**

Insert the new tape into the DA-2.

↓

Rewind the tape all the way to the beginning.

↓

Press the **REC/MUTE** button. A 5-second recorded blank (Lead in Area) is automatically placed at the beginning of the tape. Operation enters the REC pause state.

↓

Adjust the recording volume. Press the **PLAY** button or **PAUSE** button to begin recording. Be sure to use the REC/MUTE button when you're finished with recording.

- **Recording mid-way through a tape**

Insert the tape into the DA-2 and set the time counter (see page 26) to the ABS time display.

If you record over a section which has already been recorded, the ABS time is displayed if it has been registered.

To record following the last selection on a tape (non-recorded blank), use the **FF** button to locate the end of the last recording (see page 19). The ABS time and Program No. of the last selection will be displayed (if they have been registered).

Begin recording.
If the previous Program No. has not been read, a new Program No. will not be registered. In this case, it will be necessary to carry out renumbering after you've finished recording (see page 25).

If ABS time has not been registered (no message on display), it is impossible to register it later. (See page 26.)

Helpful Hints

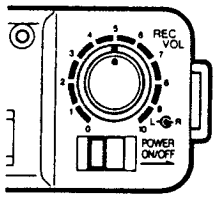
- **REC/MUTE** button can be used in REC pause also.
- When recording from mid-way in a tape, the display shows the present program number as the tape is rewound or fast-forwarded. If you rewind beyond the last recorded selection, simply advance the tape to the desired position at the end of the last recorded selection. The program number of the new selection will then follow in sequence.

Playback

Fast
and

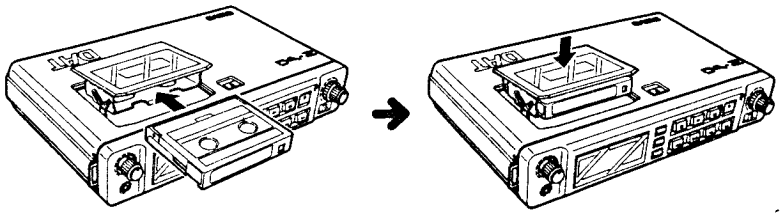
To play a selection (basic operation)

1 Switch power ON.

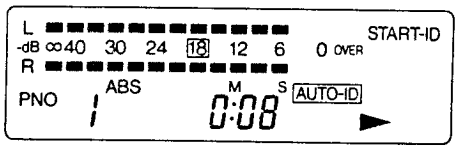


2 Insert the DAT cassette in the holder.

Cue/R
Playb

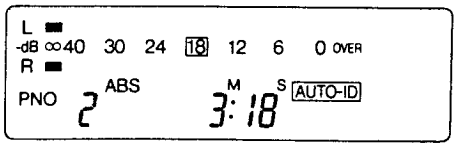


3 Press the **PLAY** button and playback begins.



To stop playback

Playback stops as soon as you press the **STOP** button.
The **PAUSE** button can be used to interrupt playback.

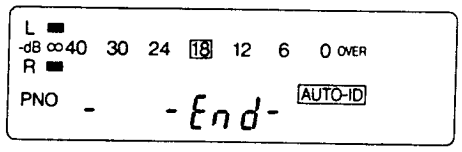


- To engage playback after stopping with the **PAUSE** button, simply press the **PLAY** button or **PAUSE** button once gain.
- Pause status is released and playback stops automatically 5 minutes after the **PAUSE** button is pressed.

Fast Forward and Rewind

Press the **FF** or **REW** buttons after pressing the **STOP** button, **PAUSE** button or **SKIP** button (Forward/Reverse). The tape will be advanced or rewound at 100 times the speed of normal playback, and will automatically stop when the end (or beginning) is reached. To stop FF or rewind, press the **STOP** button.

If a 9-second period of non-recorded blank is encountered during playback or fast-forward, the DA-2 will judge that recorded part has ended. An "End" message will appear on the display and the tape will be automatically rewound to the last recorded point.



Display during rewinding

Cue/Review Playback

During playback, you can "cue" or "review" a selection by holding down the **FF** or **REW** buttons. This lets you advance or rewind at 10 times its normal speed (1/10 the speed of normal FF and rewind), so you can accurately find any point in the selection. To return to normal playback, simply release the **FF** or **REW** button.

No sound is heard when the Cue/Review function is used, so make use of the time counter for accurate and speedy search. (See page 26 for more information about the time counter.)

ɔly press the

ɹtes after the

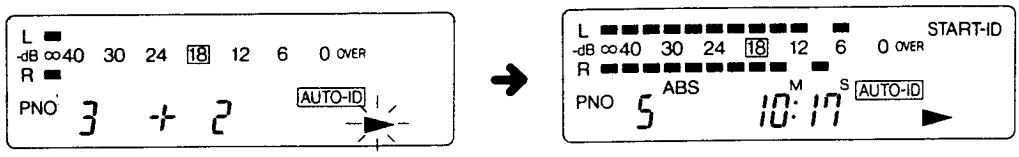
Playback Variations

Skip play

During playback, stop or pause, you can "skip" forward or back to other selections by pressing the **SKIP** buttons.

<To skip from selection 3 to selection 5>

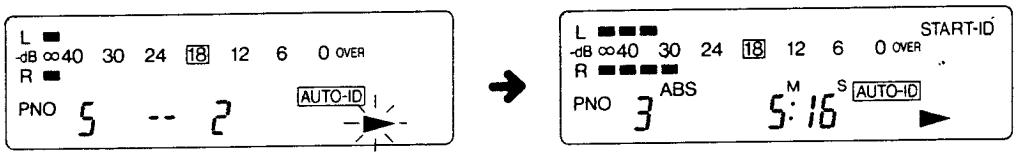
While selection 3 is playing, press the **SKIP** Forward button 2 times. Playback will skip forward to the beginning of selection number 5.



- You can skip up to 15 selections.

<To skip from selection 5 to selection 3>

While selection 5 is playing, press the **SKIP** Reverse button 3 times. Playback will skip back to the beginning of selection number 3.



- The first time the **SKIP** Reverse button is pressed, playback skips to the beginning of the selection presently in play.
- You can skip up to 14 selections.

Auto rewind

If the tape end is reached during playback, recording, forward skip or search, the tape is automatically rewound to the beginning of the tape. If a 9-second non-recorded blank is encountered, however, auto-rewind returns only to the end of recorded section.

Sub-codes

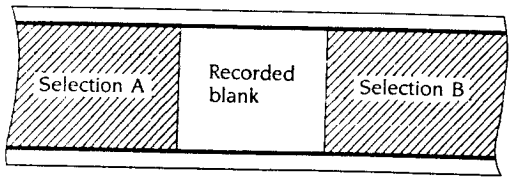
How the DA-2 records data

In addition to recording sound data such as music on DAT tapes, you can also register ***sub-codes***. These sub-codes identify specific locations on the tape, so that the DA-2 can search for a location, skip over a portion of the tape, etc. Sub-codes can be registered totally independent of the sound data you record on the tape, so you can insert or delete them freely without affecting the sound data.

Since sub-codes are independent of the sound data, there are two types of blank spaces that can be created on a digital audio tape: ***recorded blanks*** and ***non-recorded blanks***.

Recorded blank

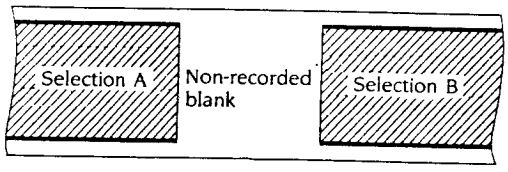
A ***recorded blank space*** is one which contains sub-code data, but no sound data.



Since the sub-code data is uninterrupted, the ABS time is registered for each selection recorded on the tape, in proper sequence.

Non-recorded blank

A ***non-recorded blank*** is one which contains neither sub-code data nor sound data.



This can cause problems because the DA-2 might fail to register an ABS time for a selection follwoing a non-recorded blank.

How to avoid non-recorded blanks

When you want to stop recording (REC PAUSE, page 13), don't press the **STOP** button immediately. Instead, use REC/MUTE (page 15) or record a portion of the tape with the recording volume turned all the way down to create a recorded blank. The next time you record from the recorded blank, the sub-code will be read and continued uninterrupted into the new recording. Before beginning the new recording, check to see that the ABS time is displayed. If it is, it means that the DA-2 is picking up the sub-code from the previous recording and continuing it into the new recording.

NOTES

The procedures in this section detail how to register, delete, and change sub-code data. A few seconds are usually required to handle sub-code data, so be sure never to press the **STOP** button while the DA-2 is registering, cancelling or modifying sub-code data.

About DA-2 Sub-codes

There are four types of DA-2 sub-codes.

ABS (absolute time)

ABS indicates the total time elapsed from the beginning of the tape. For proper ABS time registration, be sure to rewind new (non-recorded) tapes all the way to the beginning before beginning recording.

Program Time

Program Time indicates the time elapsed for a specific selection.

Start ID

The Start ID indicates the beginning of an individual selection. When a Start ID is encountered during playback, the "START-ID" indicator appears on the display of the DA-2.

Program No.

The program No. indicates the sequential number of the selection. If selections are numbered correctly, the first one on the tape should be Program No. 1, the second one Program No. 2, etc.

Sub-codes created by other DAT models

The SKIP-ID function available on certain DAT models is not possible with the DA-2. All SKIP-CODES contained on tapes recorded on other models are ignored by the DA-2.

Registering Start IDs

Start IDs are used to mark a point on the tape as a start point. Then when you use the DA-2's high-speed search function, you can quickly move to any Start ID for playback.

- Registration of a Start ID takes 9 seconds.
- The Program No. is automatically incremented each time a Start ID is registered.

During recording with the AUTO-ID indicator displayed

A Start ID is registered automatically when you start a new recording. You can turn ON the AUTO-ID function by pressing the **MODE** button in the REC pause state.
The DA-2 automatically registers a Start ID whenever a sound louder than −40dB is picked up following a period of silence (below −40dB) at least 3 seconds long.

- When the AUTO-ID indicator is displayed, you cannot register a Start ID for any selection which is shorter than 20 seconds.

During recording with the AUTO-ID indicator not displayed

A Start ID can be registered manually by pressing the **PLAY** button, regardless of the volume of the sound being recorded.

- When the AUTO-ID indicator is not displayed, you can register a Start ID for any selection which is longer than 12 seconds. For best results, however, we highly recommend that you allow at least 20 seconds between Start IDs.

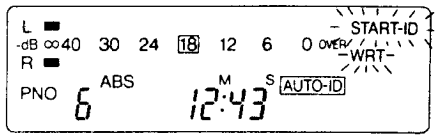
To er
IDs

During playback

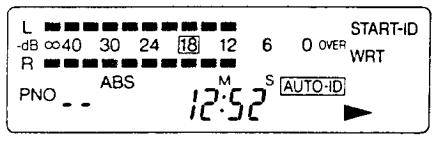
You can also register Start IDs at any point in the tape during playback (with the exception of 9-second sections which have already been designated as Start IDs at the beginning of selections).

1 Stop play approximately 10 seconds before the point where you want to register a Start ID.

2 Press the **MODE** button to select the Start ID WRT mode. The "START ID" and "WRT" indicators flash on the display.



3 Press the **PLAY** button to restart playback. When you reach the desired point, press the **PLAY** button once again to "write" the point into memory. The Start ID is registered for 12 seconds from that point. Note that the corresponding program number will not be registered. Operations then automatically return to the normal play mode.



Display during registration

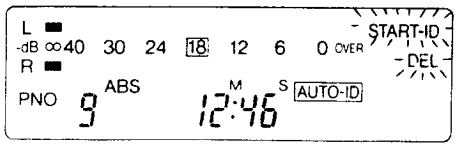
NOTES

- In cases where the space between two Start IDs is too short, search functions may not operate correctly.
- The pause function will be inoperative during Start ID registration.
- When inputting manual sub-codes, be sure to close the tape erase protect tab.

To erase Start IDs

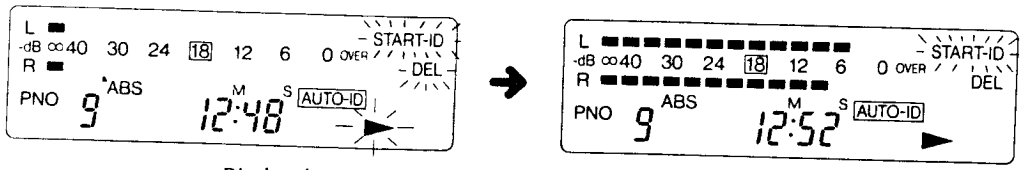
1 Stop play immediately before the Start ID you want to eliminate, or use the skip search function to search for the ID and stop in the middle of it (the first 9 seconds of the selection).

2 Press the **MODE** button to select the Start ID "DEL" mode. The "DEL" indicator flashes on the display.



On START-ID area → START-ID
Not on START-ID area → -START-ID- (flashing)

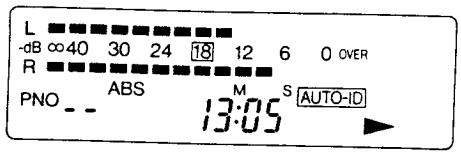
3 Press the **PLAY** button. After searching for the beginning of the Start ID, the Start ID is erased for 12 seconds.



Display during searching

Display during registration

While the DA-2 searches for the Start ID, the "DEL" and "▶" indicators will flash. When actual erasure begins, the flashing of "DEL" and "▶" indicators will stop. After completion, the "START-ID" and "DEL" indicators will disappear and operations will return to the normal play mode.



NOTES

- If no Start ID has been registered, search will continue until the end of the tape is reached, and then the tape will automatically rewind and stop.
- When Start IDs are registered or deleted manually, be sure to perform the renumbering procedure below.
- When inputting manual sub-codes, be sure to close the tape erase protect tab.

Helpful Hints

When you perform the erase procedure during the middle of a Start ID, that Start ID is erased. At any other time, the next Start ID found in search is erased.

Program numbers

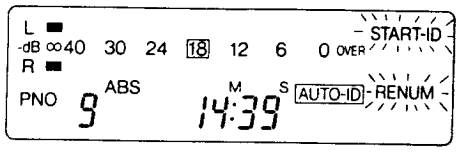
By assigning program numbers to each Start ID, you can easily identify and move directly to the beginning of the selection(s) you want to play.
During recording, program numbers are input automatically together with Start IDs. When you start recording mid-way through a tape, it's always best to rewind slightly so the DA-2 can read the previous program number. In this way, all program numbers for succeeding recording will be in sequence with existing selections.

If the previous program number is not read first, a program number will not be registered for the next program.

Renumbering program numbers

When a Start ID is added, program numbers may temporarily be out of sequence. Perform renumbering to bring all program numbers into proper order.

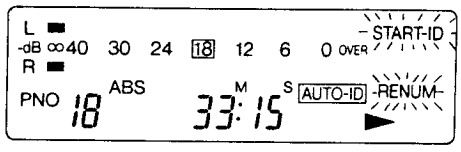
1 Press the **MODE** button so that the Renumbering mode is selected. The "RENUM" indicator flashes on the display.



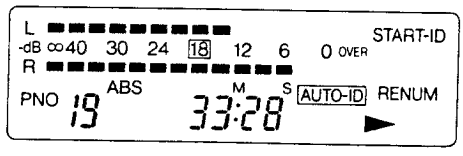
On START-ID area → START-ID
Not on START-ID area → START-ID (flashing)

2 Press the **PLAY** button

Selections which have been properly numbered are passed over quickly. When a selection is found to be out of order, a new program number is written (requires 12 seconds). During search the "RENUM" and "▶" indicators flash, while during registration the indicators light. When all renumbering is complete the tape automatically rewinds to the beginning and stops. To stop mid-way through renumbering, press the **STOP** button while the display is flashing.



Display during searching



Display during registration

On START-ID area → START-ID
Not on START-ID area → START-ID (flashing)

NOTE

When inputting manual sub-codes, be sure to close the tape erase protect tab.

Changing the Time Counter

The time counter actually features 5 different functions, which can be selected with the **TIME** button.

ABS (Absolute time)
Displays elapsed time from beginning of tape

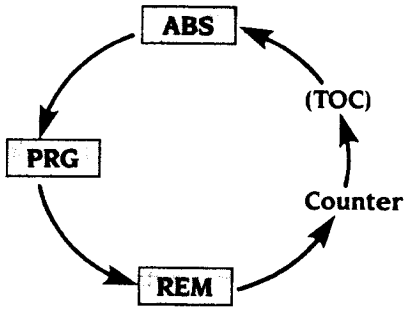
PRG (Program time)
Displays elapsed time from beginning of selection

REM (Remaining time)
Displays remaining time on tape

Counter
Displays counter numbers in relation to tape revolutions.

TOC (Table of Contents)
Displays the total number of programs in the PRG number display and the total performance time of the tape in the counter number display.
(Appears for three seconds before ABS display.)

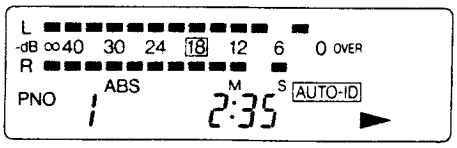
When the **TIME** button is pressed, display changes as shown below.



ABS (Absolute time)

(**display modes:** stop, play, pause, recording, FF, rewind, cue, review)

Press the **TIME** button so that ABS is selected.
In this case, the display shows that 2 minutes and 35 seconds have elapsed since the beginning of the tape.



ABS indicates total elapsed time from the beginning of the tape.
When using a new tape, be sure to rewind it all the way to the beginning before recording. If the tape is not rewound, ABS will not be registered.

e selected

d. display

(TOC)

Counter

ew)

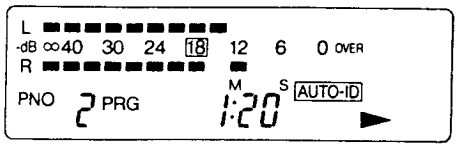
osed since

ng before

PRG (Program time)

(**display modes**: stop, play, pause, recording, FF, rewind, cue, review)

Press the **TIME** button so that PRG is selected. This indicates that 1 minute and 20 seconds have elapsed in the presently selected program (selection).

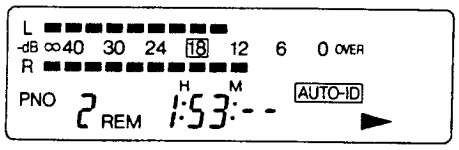


Note that program time is displayed when a program is played back from its beginning (Start ID). PRG time is not displayed if the Cue/Review, FF or rewind functions are used to start playback in the middle of a selection.

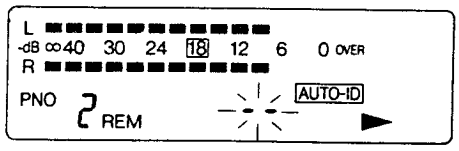
REM (Remaining time)

(**display modes**: stop, play, pause, recording)

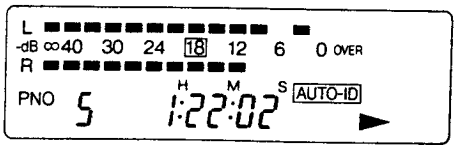
Press the **TIME** button so that REM is selected. In this case, the display shows that 1 hour and 53 minutes remain on the tape.



Display appears approximately 10 or 15 seconds after beginning of play/recording, as time is required for calculation. During calculation time, a flashing "- -" mark appears in the display.



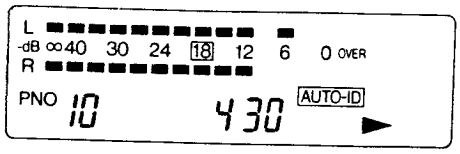
Displays in seconds when reading TOC. Also displayed during FF and REW.



Counter

(**display modes**: stop, play, pause, recording, FF, rewind, cue, review)

Press the **TIME** button to select the Counter mode. (ABS, PRG or REM indicators disappear.) In this case, the display shows that the counter has incremented to a value of "430."



To reset the counter, press the **COUNTER RESET** button.

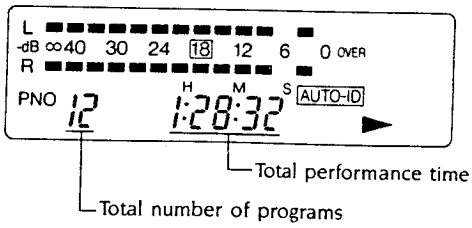
In any TIME MODE, pressing the **COUNTER RESET** button selects the Counter mode and resets the counter value to 0.

Auto "0" Stop

When the counter display is selected, the tape will automatically stop when the counter reaches a value of "0" during FF or rewind. By resetting the counter at a specific point in the tape, you can quickly fast-forward or rewind back to the point automatically.

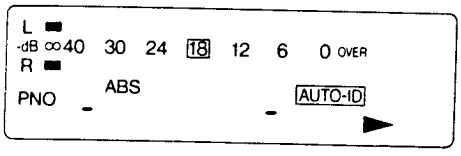
TOC (Table of contents)

Press the **TIME** button once again when the Counter is displayed. The TOC display will appear, showing the PRG number display and the total performance time of the tape. After three seconds, the Time Counter automatically shifts to the ABS display.
This function is only available with pre-recorded tapes that contain a table of contents. If there is no TOC registered on the tape, the display will shift to the ABS display.



Helpful Hint

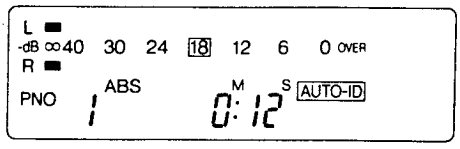
When ABS, PRG or REM displays are selected, the display appears as shown at the right if non-recorded section of tape is encountered in playback.



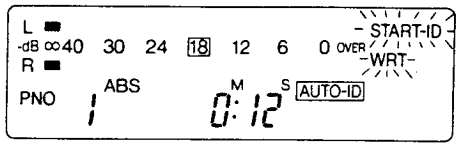
Changing the Operating Mode

There are 4 basic operating modes, which can be selected with the **MODE** button.

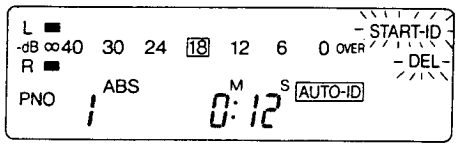
Normal Mode



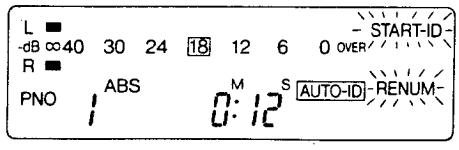
START-ID "WRT" Mode



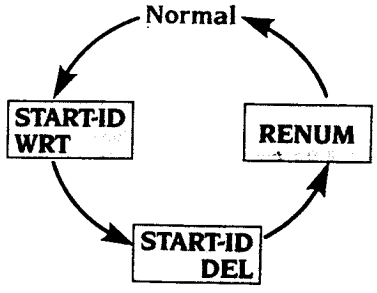
START-ID "DEL" Mode



RENUM Mode



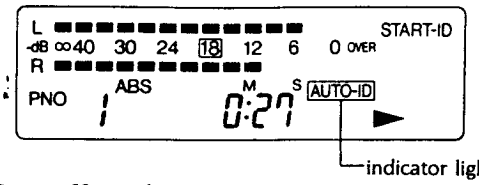
Each time you press the **MODE** button, the mode selector mark on the display increments cyclically.



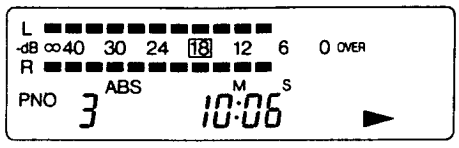
- "WRT", "DEL" and "RENUM" mode selector marks will not show on display unless the erase protect slot is open.

Changing modes (during recording or REC pause)

AUTO-ID mode

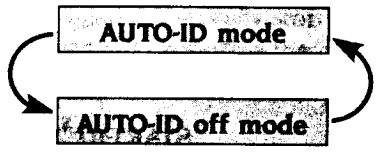


AUTO-ID off mode



AUTO-ID indicator disappears

- Each time you press the **MODE** button, you can turn the AUTO-ID indicator on or off.



Troubleshooting

Problem	Probable causes	Remedy
No power	1. Incorrect POWER SOURCE setting. 2. Ni-Cd battery pack not charged.	1. Correct setting (see "Power Source"). 2. Recharge battery pack.
No recharging	POWER SOURCE switch set to BATT.	Set switch to AC/CHARGE.
Controls not operable	1. Cassette not inserted. 2. Not operable for 5 seconds after power ON. 3. Condensation.	1. Insert cassette. 2. Wait 5 seconds after power ON. 3. Wait 1 to 2 hours before operating.
Recording impossible	1. Erase protect slot open. 2. Trying to record on a pre-recorded tape.	1. Close erase protect slot. 2. Use a different tape.
Set to record but no sound recorded	1. REC VOL too low. 2. Incorrect LINE/MIC INPUT switch setting.	1. Raise recording level. 2. Correct setting (see "Connections").
Selection changes but program number remains the same	1. Start ID not registered. 2. Program number duplicated or not registered.	1. Insert start ID. 2. Renumber tape.
ABS time not displayed	ABS time not registered.	ABS time cannot be registered after recording. Use a tape which has ABS time registration.
Tape skips	1. Tape is old. 2. Heads are dirty or worn.	1. Use a new tape. 2. Clean unit with head cleaning tape.

If problem persists, contact your authorized Casio representative.

Error messages

The following messages flash on the display when an error condition exists.

Display	Problem	Remedy
"**Casio**"	Condensation	Wait 1 hour or 2 hours before using the unit again (see page 3).
" "	Ni-Cad battery pack needs charging.	Charge battery pack (see page 7), or turn power switch OFF and then ON again.

Sub-codes cannot be registered on tapes that are recorded using incorrect format (a format that is not compatible with world DAT Conference). If you attempt to register a sub-code on such tapes, the DA-2 will stop recording and display the message "**AFErr**" for four seconds.

Specifications

Model: Digital Audio Tape Recorder DA-2.

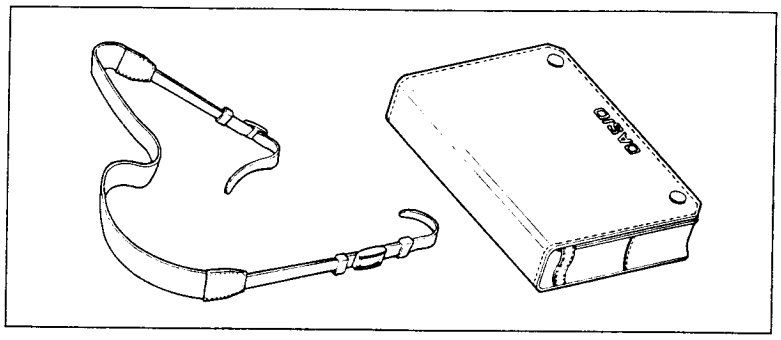
Tape:	DAT cassette tape
Tape speed:	8.15mm/sec. (12.23mm/sec.) * Tape speed is 12.23mm/sec. when wide track is used (1.5 × playback mode)
Recording time:	120 minutes, continuous (with 120-minute tape)
Head:	Rotary head
Drum speed:	Approximately 2,000rpm
Track pitch:	13.6μm (20.4μm)
Sampling frequency:	48kHz (Recording/Playback), 44.1kHz (Playback)
Quantization:	15-bit linear (A/D) 16-bit linear (D/A)
Modulation:	8-10 modulation
Channels:	2-channel stereo
Frequency:	10Hz to 20kHz (±1dB)
SN ratio	85dB
Dynamic range:	80dB (Record & Playback) 90dB (Playback)
Total harmonic distortion:	0.01% (1kHz)
Wow and flutter:	Less than measurable range (±0.001% W PEAK)
Emphasis:	15/50μS
Rewind time:	Approximately 70 seconds (120-minute tape)
Terminals:	
LINE IN	25mV (−18dB), 0.2V (0dB) RCA pin jack input impedance=50KΩ
MIC IN	0.38mV (−18dB), 3mV (0dB) standard jack input impedance=10KΩ
LINE OUT	250mV (−18dB), 2.0V (0dB) RCA pin jack output impedance=1KΩ
PHONES	0 — 30mW (32Ω) stereo mini jack
Power supply:	3-way — AC adaptor, Ni-Cd battery pack and car adaptor
Auto power off function:	Approximately 6 minutes after last operation
Power consumption:	4W DC (2 hours of playback/recording using battery pack recharged for approximately 8 hours)
Dimensions:	9 9/16" (W) × 5 7/8" (D) × 1 3/4" (H) (243(W) × 150(D) × 45(H)mm)
Weight:	2.9lbs (1.3kg) (including Ni-Cd battery pack)
Standard accessories:	AC adaptor (AD-D6) 2 connecting cords Ni-Cd rechargeable battery pack (NP-D2)

Design and specifications are subject to change without notice.

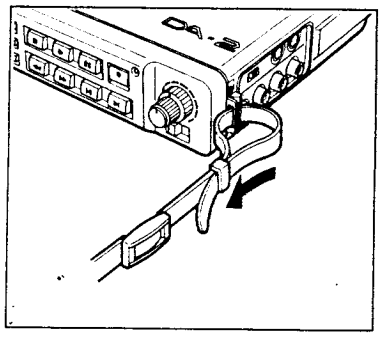
Optional Accessories

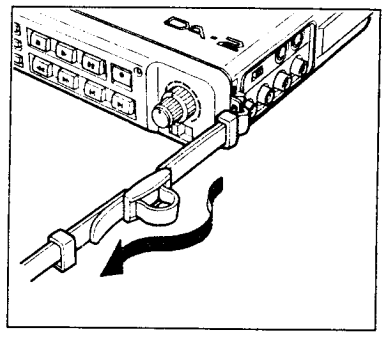
For total portability, choose genuine Casio DA-2 optional accessories.

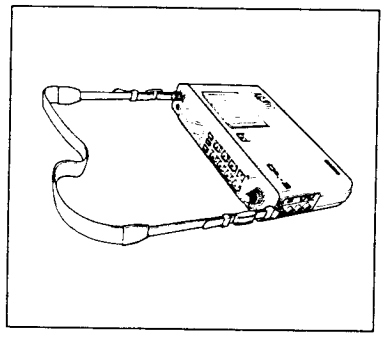
Carrying case (BV-D2)



Connecting the Shoulder strap

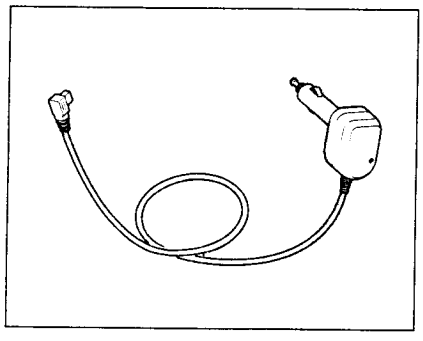






Car option set (OC-D20)

Car adaptor (CA-D61)



Car cassette connector (C-D1)